

Claims:

1. Rotary bed with a base (8) that can be set on the floor, which has a head at a distance from the floor, and whose distance from the floor is adjustable; with a reclining frame (11) sized for receiving a mattress (12); with a rotary hinge (9) arranged at the head of the base (8), by means of which the reclining frame (11) is connected to the base (8), and with whose aid the reclining frame (11) can rotate relative to a vertical axis (148); wherein the rotary hinge (9) has a circular, annular supporting ring (48), which is closed in the circumferential direction and in which a swiveling bolster (64) is supported so that it can turn, which is connected to the base (8) only via the supporting ring (48) and without axial pegs and which supports the reclining frame (11).

2. Rotary bed according to Claim 1, characterized in that the swiveling bolster (64) has two longitudinal spars (68, 69), which are connected to each other via two separated cross braces (71...74) located within the supporting ring (48).

3. Rotary bed according to Claim 2, characterized in that each cross brace (71...74) is formed from two interconnected braces, each of which is rigidly and undetachably connected to an associated longitudinal spar (68, 69).

4. Rotary bed according to Claim 3, characterized in that the two braces (71...74) are screwed together.

5. Rotary bed according to Claim 2, characterized in that the distance of the longitudinal spars (68, 69) from each other is adjustable.

6. Rotary bed according to Claim 1, characterized in that the longitudinal spars (68, 69) are provided at their ends with bearing means (79...83, 84), which interact with the supporting ring (48).

7. Rotary bed according to Claim 6, characterized in that each bearing means (79...83, 84) includes at least one axle (79...74) connected to the longitudinal spar (68, 69) and a roller (84) that can turn on this axle, wherein the axles are aligned with the supporting ring (48) in the radial direction.

8. Rotary bed according to Claim 6, characterized in that the bearing means (79...74, 84) of the swiveling bolster (64) are arranged at the corners of a quadrilateral, preferably a square.

9. Rotary bed according to Claim 1, characterized in that the supporting ring (48) has a groove that is open on the inside and is continuous, preferably with a square cross section.

10. Rotary bed with a base (8) that can be set on the floor, which has a head at a distance from the floor, and whose distance from the floor is adjustable in height; with a reclining frame (11) sized for receiving a mattress (12); with a rotary hinge (9) arranged at the head of the base (8), by means of which the reclining frame (11) is connected to the base (8), and with whose aid the reclining frame (11) can rotate relative to a vertical axis (185); wherein the rotary hinge (9) has a circular arc shaped, curved supporting ring (48), by means of which a swiveling bolster (64) is supported so that it can rotate, such that the rotational axis is offset laterally relative to the longitudinal axis of the base (8).

11. Rotary bed according to Claim 10, characterized in that the swiveling bolster (64) is connected to the reclining frame (11).

12. Rotary bed according to Claim 10, characterized in that the supporting ring (48) has a radius of curvature (), which is greater than half the width of the reclining frame (11).

13. Rotary bed according to Claim 10, characterized in that the rotary hinge (9) also has a pair of axle means (185), which interact with a positive fit and whose geometric rotational axis coincides with the geometric axis of the supporting ring (48).

14. Rotary bed according to Claim 10, characterized in that the first axle means (185) is provided on the swiveling bolster (64) and the second axle means is provided on the base (9).

15. Rotary bed according to Claim 10, characterized in that the supporting ring (48) contains a groove, which is open at the inside and in which the swiveling bolster (64) is guided.

16. Rotary bed according to Claim 10, characterized in that the swiveling bolster (64) has at least one bearing element (79, 81, 84) that interacts with the supporting ring (48) at a radial distance from the axle means (185).

17. Rotary bed according to Claim 10, characterized in that the swiveling bolster (64) has at least two separate bearing elements (79, 81, 84), which interact with the supporting ring (48), at a radial distance to the axle means (185).

18. Rotary bed according to Claim 10, characterized in that the supporting ring (48) extends over a circumferential angle of not less than 90°.

19. Rotary bed with a base (8) that can be set on the floor, which has a head at a distance from the floor, and whose distance from the floor is adjustable; with a rotary hinge (9) arranged at the head of the base (8) and whose rotational axis is aligned vertically, with an intermediate frame (10), which includes two parallel intermediate frame spars (106, 107), which are attached to the rotary hinge (9); and with a reclining frame (11) sized for receiving a mattress (12), whose width is greater than the distance of the intermediate frame spars (106, 107) from each other, and is divided into at least one central section (13), one back section (14), and one foot section (15, 16), wherein each section is bound laterally by two associated longitudinal spars (18, 19, 25, 27) that run parallel to each other, and the longitudinal spars (18, 19) of the central section (13) are connected exclusively to the intermediate frame (10).

20. Rotary bed according to Claim 19, characterized in that each intermediate frame spar (106, 107) is provided with at least one extension arm (113...116) projecting laterally for attaching to the corresponding longitudinal spar (18, 19).

21. Rotary bed according to Claim 19, characterized in that the intermediate frame spars (106, 107) are each formed by a tubular profile.

22. Rotary bed according to Claim 19, characterized in that the intermediate frame spars (106, 107) are connected to each other by at least two braces (109...112) at the height of the extension arms (113...116).

23. Rotary bed according to Claim 19, characterized in that the two or more braces (109...112) lie in two parallel planes, which are separated in the vertical direction, relative to the position of use of the bed.

24. Rotary bed according to Claim 19, characterized in that the two braces (109...112) are offset relative to each other in the longitudinal direction of the intermediate frame spars (106, 107).

25. Rotary bed according to Claim 19, characterized in that there are at least two braces (109...112) in the top plane and at least two braces (109...112) in the bottom plane.

26. Rotary bed according to Claim 19, characterized in that the distance of the braces (109...112) between the intermediate frame spars (106, 107) at least approximately corresponds to the vertical height of the intermediate frame spars (106, 107).

27. Rotary bed according to Claim 19, characterized in that between the intermediate frame spars (106, 107), a shaft (118) is supported so that it can rotate, whose rotational axis runs at a right angle to the longitudinal extent of the intermediate frame spars (106, 107) and to which at least one first lever (119, 120) is rigidly attached, wherein this lever is in active connection with the foot section (15, 16), as well as a second lever (129), which is coupled to a drive device (133).

28. Rotary bed according to Claim 19, characterized in that the drive device (133) has a screw spindle drive (132), whose spindle (132) extends in the direction parallel to the longitudinal extent of the intermediate frame spars (106, 107).

29. Rotary bed according to Claim 19, characterized in that in the intermediate frame (10), a longitudinal guide (137, 138) is attached, in which a guide sled (138, 141) is guided, which acts as a kinematic connecting point between the screw spindle drive (132) and a connecting rod (131) that couples the sled (138, 141) to the second lever (129) of the foot shaft (118).

30. Rotary bed according to Claim 19, characterized in that two separated and parallel first levers (119, 120) are attached to the foot shaft (118).

31. Rotary bed according to Claim 19, characterized in that the first levers (119, 120) have free ends, which are set at a distance from the foot shaft (118) and to which carrier pegs (121) are attached, wherein each carrier peg (121) runs in a guide rail (31) connected to the foot section (15).

32. Rotary bed according to Claim 19, characterized in that the two guide rails (31) run parallel to each other.

33. Rotary bed according to Claim 19, characterized in that the two guide rails (31) run in a plane that encloses, with a plane defined by the foot section (15), an acute angle, which opens in the direction toward the head end of the bed (1).

34. Rotary bed according to Claim 19, characterized in that the back section (14) is supported so that it can pivot relative to the central section (13) with reference to an axis that extends at a right angle to the intermediate frame spars (106, 107).

35. Rotary bed according to Claim 19, characterized in that the intermediate frame has a counter-support (146) for an adjustment drive (149) of the back section (14), wherein the attachment point of the counter-support (146) lies underneath the axis, with reference to which the back section (14) can pivot relative to the central section (13).

36. Rotary bed according to Claim 19, characterized in that the back section (13) is provided with a counter-support (152) for the adjustment drive (149) and in that the attachment point to the counter-support (152) of the back section (14) lies higher than the attachment point to the counter-support (146), which is attached to the intermediate frame (10).

37. Rotary bed with a base (8) that can be set on the floor, which has a head at a distance from the floor, and whose distance from the floor is adjustable; with a rotary hinge (9) arranged at the head of the base (8) and whose rotational axis is aligned vertically; with a reclining frame (11) sized for receiving a mattress and divided into at least one central section (13), one back section (14), and one foot section (15, 16); with an intermediate frame (10), by means of which the reclining frame (10) is connected to the rotary hinge (9) and includes two parallel intermediate frame spars (106, 107) attached to the rotary hinge (9), and with a sled guide arrangement (137, 138, 139, 141) arranged between the intermediate frame spars (106, 107), with a sled (139, 141), which is guided in this arrangement and to which a drive device (133) and a connecting rod (131) attach, which is kinematically coupled to the foot section (15, 16) of the reclining frame (11).

38. Rotary bed according to Claim 37, characterized in that between the intermediate frame spars (106, 107) a shaft (118) is supported so that it can rotate, where the rotational axis runs at a right angle to the longitudinal extent of the intermediate frame spars and to which at least one first lever (119, 120) is rigidly attached, which lever is in active connection with the foot section (15, 16), as well as a second lever (129), which is coupled with the drive device (133).

39. Rotary bed according to Claim 37, characterized in that the drive device (133) has a screw spindle drive (132), whose spindle (132) extends in the direction parallel to the longitudinal extent of the intermediate frame spars (106, 107).

40. Rotary bed according to Claim 37, characterized in that in the intermediate frame (10) a longitudinal guide (137, 138) is attached within which a guide sled is guided, which acts as a kinematic connecting point between the screw spindle drive and a connecting rod that connects the sled (9) to the second lever (129) of the foot shaft (118).

41. Rotary bed according to Claim 37, characterized in that two separated and parallel first levers (119, 120) are attached to the foot shaft (118).

42. Rotary bed according to Claim 37, characterized in that the first levers (118, 120) have free ends, which are set at a distance from the foot shaft (118) and to which carrier pegs (121) are attached, wherein each carrier peg (121) runs in a guide rail (31), which is connected to the foot section (15, 16).

43. Rotary bed according to Claim 37, characterized in that the two guide rails (31) extend parallel to each other.

44. Rotary bed according to Claim 37, characterized in that the two guide rails (31) run in a plane that encloses, with a plane defined by the foot section (15, 16), an acute angle, which opens in the direction toward the head end of the bed (1).

45. Rotary bed according to Claim 37, characterized in that the back section (14) is supported so that it can pivot relative to the central section (13) with reference to an axis, which extends at a right angle to the intermediate frame spars (106, 107).

46. Rotary bed according to Claim 37, characterized in that the intermediate frame (10) has a counter-support (146) for an adjustment drive (149) of the back section (14), wherein the attachment point of the counter-support lies underneath the axis, with reference to which the back section (14) can pivot relative to the central section (10).

47. Rotary bed according to Claim 37, characterized in that the back section (14) is provided with a counter-support (152) for the adjustment drive (149), and in that the attachment point to the counter-support of the back section (14) lies higher than the attachment point to the counter-support (146), which is attached to the intermediate frame (10).

48. Bed with a reclining frame (11), which is divided into at least one central section (13), one back section (14), and one foot section (15, 16), wherein each section includes two parallel longitudinal spars (18, 19); and with a hinge (160), which connects two abutting longitudinal spars (18, 22) of adjacent sections to each other; wherein each longitudinal spar (18, 22) is formed by a quadrilateral tube, which transitions integrally into a hinge bracket (162).

49. Rotary bed according to Claim 48, characterized in that at least one circular disk shaped spacing element (167, 168) is arranged between the hinge brackets (162).

50. Rotary bed according to Claim 48, characterized in that two spacing elements (167, 168) are present, each of which is connected without rotational play to the associated hinge bracket (162).

51. Rotary bed according to Claim 48, characterized in that the hinge bracket (162) has a U shaped cross sectional profile, such that two parallel bars (163, 164) are produced, wherein the profiles of two hinge brackets (160) forming a hinge (160) are arranged such that the U profiles open toward each other.

52. Rotary bed according to Claim 48, characterized in that the hinge bracket (162) transitions smoothly and without steps into the profile of the relevant longitudinal spar (18, 19).

53. Rotary bed according to Claim 48, characterized in that the longitudinal spar (18, 22) is formed by a quadrilateral tube, and in that the hinge bracket (162) is formed by the remaining part for an end recess (165, 166) of the longitudinal spar (18, 22).